266800

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 1 August 2002 (01.08.2002)

PCT

(10) International Publication Number WO 02/059028 A3

- (51) International Patent Classification7: B66B 11/08, 7/06
- (21) International Application Number: PCT/FI02/00054
- (22) International Filing Date: 23 January 2002 (23.01.2002)
- (25) Filing Language:

Finnish

(26) Publication Language:

English

(30) Priority Data: U20010038

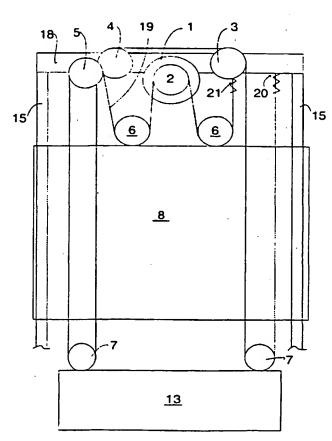
25 January 2001 (25.01.2001) 1

- (71) Applicant (for all designated States except US): KONE CORPORATION [FI/FI]: Kartanontic 1, FIN-00330 Helsinki (FI)
- (72) Inventor; and
- (75) Inventor/Applicant vior UN onlyn. ORRMAN, Jaako [FI/FI]. Tunturikatu 13 A 15, FIN 00100 Helsinki (FI).

- (74) Agent: KONE CORPORATION: Patent Department. P.O. Box 677, FIN-05801 Hyvinkää (FI).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR). OAPI patent (BE, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ELEVATOR



(57) Abstract: An elevator comprising car guide rails (15) disposed in the vertical direction of an elevator shaft on teh same side of the car (8), an elevator car moving along the car guide rails, counterweight guide rails (16) placed in the elevator shaft, a counterweight (13) moving along the counterweight (13) moving along the counterweight guide rails. In addition, the elevator comprises a number of diverting pulleys and a traction sheave driven by a drive motor and mounted in the upper part of the shaft for the transmission of hoisting power, which are disposed in the elevator shaft on the same side of the car, a drive motor (1) arranged to drive one of the diverting pulleys, and a rope system. The traction sheave (2, 9) and at least two diverting pulleys are mounted in the upper part of the elevator shaft. The elevator car (8) and the counterweight (13) are provided with at least one diverting pulley each. Both the car and the counterweight have a suspension ratio of 3:1 or greater.



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

10 October 2002

Inturmuonal application No.

PCT/FI 02/00054

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B66B 11/08, B66B 7/06
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B66B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 0044664 A1 (KONE CORPORATION), 3 August 2000 (03.08.00), the whole document	1-8
Y	WO 0027739 A1 (KONE CORPORATION), 18 May 2000 (18.05.00), the whole document	1-4,7-8
		
Υ .	US 5351788 A (DEJONG), 4 October 1994 (04.10.94), column 1, line 21 - line 34, figures 1-3, abstract	1-4,7-8
-		

	E		1! 4	!_ AL	continuation	- C D	_
(Y	rununer	aocuments	are listed	in ine d	conunuation	or Box	L

See patent family annex.

- Special estegories of cited documents
- document defining the general state of the art which is not considered to be of particular relevance
- earlier application or patent but published on or after the international filing date
- document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- document referring to an oral disclosure, use, exhibition or other
- document published prior to the international filing date but later than the priority date claimed
- later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination heing obvious to a person skilled in the art
- document member of the same patent family

Date of mailine of the international search report

Date of the actual completion of the international search

3 June 2002

Name and mailing address of the International Scarching Authority



European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk

Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016

Authorized ofnce

Mariana Eddin/LS Telephone No.

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

Form PCT/ISA/210 (continuation of second sheet) (July 1998)

International application No.

PCT/FI 02/00054

		00054
C (Continu	nation). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Gtation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
Y	WO 9943595 A2 (OTIS ELEVATOR COMPANY), 2 Sept 1999 (02.09.99), page 5, line 25 - page 6, line 16; page 9, line 16 - line 21, figures 1,3, abstract	1,5-8
		
Y	FR 2640604 A1 (OTIS ELEVATOR COMPANY), 22 June 1990 (22.06.90), page 4, line 9 - line 15, figures 2,5	1,5-8
		
A	EP 0866018 A1 (BOLL, RAINER), 23 Sept 1998 (23.09.98), the whole document	1-4
		1
E,X	WO 0226611 A1 (INVENTIO AG), 4 April 2002 (04.04.02), page 6, figures 3-4, abstract	1-8
		
1		
[50
l		
}		
		*
1		
- 1		
Ī		
)
		1
	•	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/FI 02/00054

	nt document search report		Publication date		Patent family member(s)		Publication date
WO	9943595	A2	02/09/99	BR	9908227	A	31/10/00
				BR	9908228		31/10/00
				BR	9908230	Α	31/10/00
				BR	9908303	A	04/09/01
				BR	9908304		31/10/00
				BR	9908305		31/10/00
				CN	1229764		29/09/99
				CN	1234362	Ä	10/11/99
				CN	1291960	Ť	18/04/01
				CN	1292051	T	18/04/01
				CN	1298367	T	06/06/01
			•	CN	1299333	T	13/06/01
				CN	1313827	T	19/09/01
				CN	1342130	T	27/03/02
				EP	1023236	A	02/08/00
				EP	1028911		23/08/00
				EP	1037847		27/09/00
	•			EP	1042209	Α	11/10/00
				EP	1042210	A	11/10/00
				EP		A	11/10/00
			•	EP	1056675	A	06/12/00
				EP	1056676	A	06/12/00
				EP	1056679	A	06/12/00
	-			EP	1060305		20/12/00
				EP	1064216		03/01/01
				EP	1066213	A	10/01/01
				EP	1097101		09/05/01
				EP	1097102		09/05/01
				JP	2002504469	T	12/02/02
				JP	2002504470	T .	12/02/02
				JP	2002504471	T	12/02/02
	•			JP	2002504472	T	12/02/02
				JP	2002504473	Ŧ	12/02/02
				JP	2002505240	T	19/02/02
				TW	378194	В	00/00/00
				US	6364061	В	02/04/02
				US	2002000346	A	03/01/02
				US	2002000347	Α	03/01/02
				WO	9943589		02/09/99
		•		WO	9943590		02/09/99
				WO	9943591		02/09/99
				WO	9943592		02/09/99
	•			WO	9943593		02/09/99
				WO	9943596		02/09/99
	•			WO	9943597		02/09/99
				WO	9943598		02/09/99
				WO	9943599		02/09/99
				WO	9943600		02/09/99
				MO	9943601		02/09/99
				MO	9943602		02/09/99
				MO	9943885		02/09/99
				CN	1331768		16/01/02
				EP	1153167		14/11/01
				WO	0037738		29/06/00
				πU	UU3//30	^	£3/ 00/ 00

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/FI 02/00054

	document earch report		Publication date		Patent family member(s)		Publication date
WO	0044664	A1	03/08/00	AU	2297800 /		18/08/00
				BR	0007678 /	A	06/11/01
				CN	1337916		27/02/02
				EP	1149042 /	-	31/10/01
				US	2002017434		14/02/02
				EP	1024105 /		02/08/00
				FI	4067 l		22/07/99
		 -		FI	990152 /	۱,۷	28/07/00
0	0027739	A1	18/05/00	AU	1163200 /	4	29/05/00
				BR	9915046 A	•	17/07/01
				CN	1324322 1		28/11/01
				EP	1127024 A		29/08/01
				FI	982403 A		06/05/00
				JP	2000153975 A		06/06/00
				NO	20012217 A	4	04/07/01
				US	2002000348 A	\	03/01/02
S	5351788	A	04/10/94	AT	138891 T		15/06/96
				AU	660110 B	3 (08/06/95
				AU	4735993 A		31/03/94
				BR	9303814 A		05/04/94
			•	CA	2106436 A		19/03/94
				CN	1032640 B	-	28/08/96
				CN	1086786 A		18/05/94
				DE	69302978 D		10/10/96
			•	DK	588364 T		05/08/96
				EP	0588364 A		23/03/94
				ES	2089663 T		01/10/96
				FI	92043 B		15/06/94
				FI	924207 A		19/03/94
				JP	6206677 A		26/07/94